

REMARKS

Claims 1-7 have been examined are all the claims pending in the application. Applicants are amending the specification and Abstract of the Disclosure to correct some typographical errors. Applicants are also amending claims 1 and 4. No new matter has been introduced and support for the amended claim can be found in the specification. MPEP §706.03(o)(8th Edition).

Applicants thank the Examiner for acknowledging Applicants' claim to foreign priority under 35 U.S.C. § 119(a) - (d) and further for acknowledging receipt of all certified copies of the priority documents.

Applicants are submitting corrected formal drawings for Figures 10 and 11 for review and approval.

Applicants also thank the Examiner for considering all the references cited in PTO Form 1449, submitted with Applicants' Information Disclosure Statement filed on November 15, 2001.

Rejection of Claims 1, 4 and 7

The Examiner has rejected claims 1, 4 and 7 under 35 U.S.C. § 102(b) as allegedly being anticipated by Applicants' own admitted prior art (hereinafter APA). Applicants respectfully traverse this rejection.

The Examiner alleges that the bottom-side of the steering column of Figure 10 corresponds to the claimed side surface of the column. Claim 1 now recites that the column includes top and bottom surfaces through which a longitudinal axis passes, and at least one side surface and that the steering angle sensor is inserted from the direction of the side surface.

Additionally, claim 4 recites that the column includes top and bottom surfaces and at least one side surface and that the steering angle sensor is inserted from the direction of the side surface. Those skilled in the art would appreciate the improvement afforded by Applicants' invention over Applicants' APA because of the ease of removing the steering angle sensor from the column without removing the column from the steering shaft.

For at least these reasons, Applicants' APA fails to disclose the structure for mounting a steering angle sensor of claim 1 and the steering angle sensor mounting structure of claim 4. Claim 7 is patentable at least by virtue of its dependency on claim 4. Accordingly, Applicants respectfully request that the rejection of claims 1, 4 and 7 under 35 U.S.C. § 102(b), be withdrawn.

Rejection of Claims 1-7

The Examiner has rejected claims 1-7 under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 4,683,375 (hereinafter Hoshino). Applicants respectfully traverse this rejection.

Figures 2, 4 and 5 of Hoshino illustrate that the allegedly corresponding fitted recessed portion and sensor 16 is mounted at the bottom of the column 18 (lower column tube 20), distant from the turn signal lever and the wiper control switch. In particular, sensor 16 is disposed near holder 40 which holds disc 14.

In contradistinction, the structure for mounting a steering angle sensor of claim 1 and the steering angle sensor mounting structure of claim 4 include that "the fitting recessed portion is substantially adjacent to the turn signal lever and wiper control switch lever." In other words,

Applicants' structure provides that the angle sensor is disposed at the top of the column.
Therefore, for at least these reasons, the apparatus of Hoshino does not teach or suggest the claimed invention.

Accordingly, Applicants respectfully request that the rejection of claims 1-7 under 35 U.S.C. § 102(b), be withdrawn.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned attorney at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

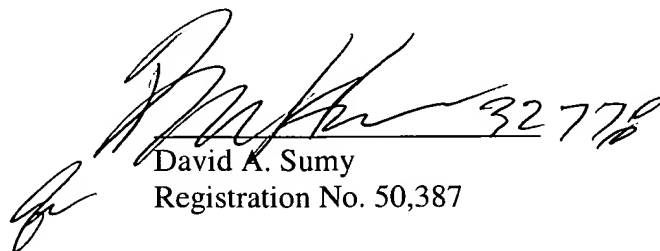
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APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

The specification is changed as follows:

The steering angle sensor 5 is inserted and fitted into a fitting recessed portion 6, formed in a side surface of the column 4, from a lateral direction of the column 4, as shown by an arrow in Fig. 4. As shown in Figs. 3 and 4, the steering angle sensor 5 is a so-called transverse type in which the sensor portion and a circuit board are accommodated in a housing body 9 constituted by an upper housing 7 and a lower housing 8 which are flat-shaped. A slit 10 as an elongated opening is formed in a front surface of this ~~ease~~housing body 9 on the side from which the ~~ease~~housing body 9 is inserted into the column 4. A flange-like magnetic disk 12 is adapted to be inserted in the ~~slot~~slit 10. The magnetic disk 12 is integrally formed with a lower end of an annular linking portion 11 linked to the rotation member of the steering-signal transmitting unit 3 and rotates with the rotating member.

IN THE CLAIMS:

The claims are amended as follows:

1. (Amended) A structure for mounting a steering angle sensor for detecting a steering angle of a steering wheel, wherein

a column including a through-hole extending along a longitudinal axis of said column,
said column including top and bottom surfaces through which said longitudinal axis passes, and
at least one side surface,

~~wherein a fitting recessed portion is provided in a side surface of a column to which a steering-signal transmitting unit, a turn signal lever, and a wiper control switch lever are attached to an upper portion of the column, and~~

wherein a fitting recessed portion is provided in the side surface of the upper portion of the column and the steering angle sensor is inserted and fitted into the fitting recessed portion from the direction of the side surface of the column,

wherein the fitting recessed portion is substantially adjacent to the turn signal lever and wiper control switch lever.

4. (Amended) A steering angle sensor mounting structure comprising:

a steering angle sensor for detecting a steering angle of a steering wheel;

a column to which a steering-signal transmitting unit is attached, the column including top and bottom surfaces and at least one side surface, the steering-signal transmitting unit including a rotating member rotating about an axis; ~~and~~

a fitting recessed portion provided in a side surface of the column through which the axis does not pass;

a turn signal lever attached to an upper portion of said column,

wherein the steering angle sensor is inserted and fitted into the fitting recessed portion from the direction of the side surface, so that the steering angle sensor detects the steering angle through the rotating member, and

wherein the fitting recessed portion is located in said upper portion of said column along with the turn signal lever.

IN THE ABSTRACT OF DISCLOSURE:

The abstract is changed as follows:

In a structure for mounting a steering angle sensor for a steering wheel for detecting a steering angle of a steering wheel, a fitting recessed portion 6(6) is provided in a side surface of a column (4) to which a steering-signal transmitting unit (3), a turn signal lever (1), and a wiper control switch lever (2) are attached, and a steering angle sensor (5) is inserted and fitted into the fitting recessed portion (6) from the side surface of the column (4).